

AN OPTICAL DEVICE THAT MEASURES
DISTANCE BETWEEN THE DEVICE AND A SURFACE

ABSTRACT OF THE INVENTION

5 An optical device and methods thereof are described. The device
includes a first light source adapted to emit light onto a surface, and a detector
adapted to receive light reflected from the surface. The reflected light
produces a speckle pattern. The distance between the optical device and the
surface can be measured using a quantifiable attribute associated with the
10 speckle pattern.